

191. SENNETT THRASHER—*Toxostoma longirostre sennetti*.
Abundant in Hidalgo and Cameron Counties. Several nests with eggs and young found near Brownsville from May 25 to 27.
192. CURVE-BILLED THRASHER—*Toxostoma curvirostre eurvirostre*.
Common in Hidalgo and Cameron Counties, but no occupied nests found.
193. CAROLINA WREN—*Thryothorus ludovicianus ludovicianus*.
The resident form of the more eastern and northern counties. Seen near Port La Vaca on May 13 and heard in Victoria County on May 20.
194. LOMITA WREN—*Thryothorus ludovicianus lomitensis*.
The resident form of Hidalgo and Cameron Counties. Heard and seen near Brownsville on May 25 and 27.
195. TEXAS WREN—*Thryomanes bewicki cryptus*.
Common around Brownsville. A nest with young found there on May 24; it was behind a blind on a deserted house.
196. BLACK-CRESTED TITMOUSE—*Bacolophus atricristatus atricristatus*.
Common around Brownsville.
197. VERDIN—*Auriparus flaviceps flaviceps*.
Common around Brownsville in the dry chaparral. Two nests with eggs found on May 24.
198. RIO GRANDE BLUEBIRD—*Sialis sialis episcopus*.
A nest with broken egg shells, taken near Brownsville, was seen in R. D. Camp's collection.

ORNITHOLOGICAL IMPRESSIONS OF FIJI AND NEW ZEALAND

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On the occasion of the visit of the scientific expedition from the University of Iowa to Fiji and New Zealand during the summer of 1922, it was my good fortune to be associated with the enterprise as ornithologist and entomologist. Very naturally, a trip involving about 18,000 miles of travel on both land and water afforded some opportunity for certain ornithological observations. While a limited amount of collecting was accomplished on both Viti Levu and Makaluva of the Fiji group and on North Island, New Zealand, the short stay in these places, four weeks in the former (June 5 to July 3) and five weeks in the latter (July 7 to August 15), precluded any intensive study of the birds inhabiting them. Therefore, it is my wish at this time, to point out only a few general impressions

concerning the avifauna of these two regions which have come to me largely as a result of these observations and experiences.

The Fiji Islands, of which there are more than two hundred with a total of about 7,500 square miles and a population of 165,000, lie between 15° and 22° south latitude and 177° west longitude and 175° east longitude. Some of the islands are merely small coral points a few square yards in area; Viti Levu, the largest of the group, measures approximately ninety-six miles from east to west and sixty-three from north to south; it is volcanic in origin. The average annual rainfall is about 130 inches and the average summer temperature about 83° Fahr. Although the northwest side of the island is comparatively dry, the general amount of precipitation combined with a fairly high temperature, result in a humid but healthful climate. In the vicinity of Suva, on the southeast and "wet" side of the island where most of my field work was done, the vegetation is very luxuriant, and here, too, birds are most plentiful.

Since the topography is so rough and the population, in general, so sparse a considerable proportion of the land is not under cultivation. Nevertheless, there are many banana and cocoanut plantations owned and managed largely by Europeans; rice farming is done by the East Indians of which race there are more than 65,000 in the Fiji group; and of late, truck farming has been taken up with a considerable degree of success by a good many Chinese. Having been accustomed, for many generations, to depend upon Mother Nature for most of their subsistence, the native Fijians do not readily adopt farming as a means of livelihood. Contrary to the popular belief, cannibals are no longer in evidence on Viti Levu although some of the oldest natives living there have tasted human flesh.

Briefly stated, the avian fauna of Viti Levu and the near-by islands partakes of the following characteristics:

1. There is a total of about 75 forms on the islands and in the surrounding seas.
2. Not any species of *native* bird is markedly abundant.
3. A surprisingly small number of "water-birds" is present.
4. The small number of nocturnal and crepuscular birds is apparent. This lack is recognized by the Colonial Government and while in Fiji I was invited to participate in a conference in which the possibility and advisability

of importing certain nocturnal insectivorous forms from Australia was discussed.

5. Only three species of raptorial birds occur on the islands.
6. Woodpeckers are entirely wanting.
7. A goodly number of introduced species is present and all seem to thrive.

Native predaceous mammals and snakes are lacking; predatory birds are few; the mongoose, wild pig and rat have been introduced by man and cause some reduction in the bird population. Education, a favorable public sentiment toward protective measures, and more stringent laws have yet to be developed in Fiji.

New Zealand, another British colony consisting of the three islands, North Island, South Island, and Stewart Island, lies between 34° and 48° south latitude and 166° and 179° east longitude. It has a total area of about 105,000 square miles which supports a population of one and a half million thrifty people.

My work was confined entirely to North Island which I was able to traverse for almost its entire length of approximately 550 miles. This island, sometimes spoken of as the "Japan of the South Pacific," has an area of 44,468 square miles. Its topography is rough and volcanic and a considerable portion of the land can be used only for grazing purposes. An annual rainfall of 51 inches and a mean annual temperature of 55° insure a pleasant and healthful climate.

There is much rough and rocky coast-line which offers favorable nesting sites for many kinds of sea birds.

The native forests, largely totari, remu and matai are always green; fern trees and beeches abound in the "rain-forest." In some parts of the island large areas of dense bush remain and these afford shelter and seclusion for a considerable number of land birds.

A famous naturalist once said "New Zealand is the most interesting ornithological province in the world." In *some* respects at least, the statement is true for this, one of the oldest if not *the* oldest country on the face of the globe, contains the only living representatives of an extinct race of peculiar and wonderful birds.

Within comparatively recent times this British insular de-

pendency was inhabited by great numbers of large, short-winged or wingless birds almost or altogether twice as large as a full grown ostrich. These monsters of the avian class, known collectively as moas and belonging to several genera and species, have now disappeared but their more diminutive representatives, the various species of apteryx, still exist in some parts of the Dominion.

Additional characteristics of the New Zealand avifauna may be condensed under the following headings:

1. A large proportion of the genera represented are peculiar to New Zealand.
2. The large number of marine birds is at once apparent.
3. The small number of raptorial birds is just as obvious.
4. Woodpeckers are absent; one misses them in the bush.
5. The number of migratory species is very limited.
6. The number of introduced forms is considerable and most are very successful; among these is numbered the European house sparrow.
7. A total of about 220 forms is found on the island and adjacent seas.

There are no *native* carnivorous animals, though weasels and stoats have been introduced. Snakes and the mongoose are absent but wild pigs cause some loss among the bird population. Just now a wave of conservation is sweeping the Dominion and the scientists in the Government laboratories are accomplishing a good work in arousing a proper public sentiment toward bird protection. Stringent legislative and protective measures have been enacted and are rigidly enforced. Government and local game refuges, parks and reserves have been set aside. As a result, it is probable that at least a part of this most interesting bird fauna will be preserved to future generations.

The writer will set forth a more detailed account of the ornithology of the regions visited in Professor C. C. Nutting's forthcoming "Narrative" of the Expedition.